

REMARKS**Claims Amendments**

Applicants amend claims 1, 2, 5, 7, 8, 11, 13, and 14 in this Response. Each claim has been amended as follows:

Applicants have amended independent claims 1-16 to change the limitation “a network address for a preferred DNS server” to “a DNS network address for a preferred DNS server,” and “a network address for the domain name” to “a host network address for the domain name.” In addition, Applicants’ have changed “a” to “the” at various points in these claims to comply with antecedent basis requirements.

Dependent claims 2, 8, and 14 are amended to change the limitation “a preferred DNS server further comprises storing, through the data communication application, the domain name in association with the network address for a preferred DNS server in a data structure in computer memory” to “a preferred DNS server further comprises associating, through the data communication application, an identifier for the user with the domain name and with the DNS network address for a preferred DNS server in a table in computer memory, the table capable of supporting many-to-many relationships between user identifiers, domain names, and DNS network addresses for preferred DNS servers.” Support for these amendments can be found in Applicants’ original specification, at page 11, line 10 – page 12, line 19.

Dependent claims 5 and 11 have been amended to add the limitation “wherein a predesignated DNS server is a standard DNS server having a network address that is predesignated as a default operating parameter for the data communications application.” Support for this limitation can be found in Applicants’ original specification at page 8, lines 9-11.

Applicants submit that the amendment does not introduce any new matter into the specification and the claims are in condition for allowance.

Claim Rejections – 35 U.S.C. § 103 over McCanne and Frerria

Claims 1-16 stand rejected under 35 U.S.C. § 103(a) as unpatentable over McCanne (U.S. Patent No. 6,785,704) in view of Frerria, *et al.* (U.S. Patent No. 6,857,009). The question of whether Applicants claims are obvious *vel non* is examined in light of: (1) the scope and content of the prior art; (2) the differences between the claimed invention and the prior art; (3) the level of ordinary skill in the art; and (4) any relevant secondary considerations, including commercial success, long felt but unsolved needs, and failure of others. *KSR Int'l Co. v. Teleflex Inc.*, No. 04-1350, slip op. at 2 (U.S. April 30, 2007). Although Applicants recognize that such an inquiry is an expansive and flexible one, the Office Action must nevertheless demonstrate a *prima facie* case of obviousness to reject Applicants claims under 35 U.S.C. § 103(a). *In re Khan*, 441 F.3d 977, 985-86 (Fed. Cir. 2006). To establish a *prima facie* case of obviousness, the proposed combination of McCanne and Frerria must teach or suggest all of Applicants' claim limitations. *Manual of Patent Examining Procedure* § 2142 (citing *In re Royka*, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974)). As shown below in more detail, the proposed combination of McCanne and Frerria cannot be used to establish a *prima facie* case of obviousness because the proposed combination does not teach each and every element of the claims of the present application. As such, Applicants respectfully traverse each rejection individually.

**The Proposed Combination of McCanne and Frerria Does
Not Teach or Suggest Each And Every Element
Of Claim 1 Of The Present Application**

As amended, independent claim 1 of the present application recites:

1. A method of user defined preferred DNS routing, the method

comprising:

mapping for a user in a data communications application a domain name of a network host to a DNS network address for a preferred DNS server, wherein the preferred DNS server has a host network address for the domain name, and wherein mapping the domain name to the DNS network address for the preferred DNS server further comprises receiving from a user the domain name for the network host having the domain name registered on the preferred DNS server and receiving from the user the DNS network address for the preferred DNS server;

receiving from the user a request for access to a resource accessible through the network host; and

routing to the preferred DNS server a DNS request for the host network address of the network host, the DNS request including the domain name of the network host.

The Office Action takes the position that the combination of McCanne at column 10, lines 15-20, column 17, lines 8-40, column 19, lines 14-17, column 31, lines 45-60, and Frerria at column 3, lines 30-32 and 52-54, discloses the first element of claim 1: mapping for a user in a data communications application a domain name of a network host to a DNS network address for a preferred DNS server, wherein the preferred DNS server has a host network address for the domain name, and wherein mapping the domain name to the DNS network address for the preferred DNS server further comprises receiving from a user the domain name for the network host having the domain name registered on the preferred DNS server and receiving from the user the DNS network address for the preferred DNS server. Applicants respectfully note in response, however, that what McCanne at column 10, lines 15-20, in fact discloses is:

In current business models, Web content is generally published into the Internet through a hosting facility that is often distributed across the wide-area but not pervasively present across the edge. For example, as shown in FIG. 2, an ISP A owns a piece of the edge while ISP B owns another piece of the edge, so they can cover the whole edge only by working together.

What McCanne at column 17, lines 8-40, in fact discloses is:

In addition, policies are programmed into the APAR-DNS servers to control the mapping of named service requests onto targets. To properly load balance requests across the service infrastructure and avoid hot spots of network congestion, server load information and network path characteristics between the APAR-DNS servers at the edge of the network (near the client) and the service infrastructure may be fed into the APAR-DNS server from some external data collection process.

The APAR-DNS server programmatically maps a name-to-address translation request into a target by:

- 1) parsing the name to determine the meta-information M related to that named service;
- 2) finding the candidate set of targets in the configured database that match M;
- 3) pruning the candidate set based on configured policy, server load measurements, and network path measurements;
- 4) selecting a member of the final set based on additional policy;
- 5) returning the selected address (or set of addresses) as a DNS A record to satisfy the DNS request (typically with a TTL of 0 so that the entry is used only once).

When using the above process, DNS names can be structured as follows:

where <codepoint> defines the meta-information M described above, and <provider> is the DNS sub-domain corresponding to the CDN network. The <codepoint> field conveys information such as application type (e.g., Web, G2 streaming video, stock quotes), the customer (e.g., Yahoo or ESPN), the size of the object, the class of the object, and so forth.

What McCanne at column 19, lines 14-17, in fact discloses is:

Another possibility is for N3* to utilize servers not owned by the CDN in question. Thus, N3* can be configured to prefer servers S1, etc., unless performance degrades, at which point it can decide to divert requests to servers X1, X2, which may be owned by another CDN network or by the ISP that owns AS 300.

What McCanne at column 31, lines 45-60, in fact discloses is:

coupling each of the plurality of content providers to at least one content distribution network of a plurality of content distribution networks, wherein the client is coupled to at least one of the plurality of content distribution networks; sending a request for the content from the client to a redirector node that receives requests, wherein a redirector at the redirector node provides the client directions to a server available to serve the requested content; when the client's content distribution network is a primary content distribution network for the content provider providing the request content, redirecting the client to a server within the client's content distribution network

What Frerria at column 3, lines 30-32 and lines 52-54, in fact discloses is:

However, in applications where the client specified proxy server is publicly available, the proxy request may be forwarded to the specified proxy server if desired.

...

Various other services may also be transparently provided to the subscriber/client including Domain Name Service (DNS) redirection and Simple Mail Transport Protocol (SMTP) over the foreign network

McCanne generally discloses a content distribution system to provide content from a content provider to a client over a content distribution network using a specialized domain name server referred to as 'APAR-DNS.' An APAR-DNS dynamically resolves a domain name to a particular network address or set of network addresses based on current server load information or network path characteristics. McCanne at column 10, lines 15-20, column 17, lines 8-40, column 19, lines 14-17, column 31, lines 45-60, discloses the steps taken by an APAR-DNS server to map a name to a target address and discloses actions to be taken by a redirector node based on the content distribution network that is

available to a client and content provider. Frerria, at column 3, lines 30-32 and 52-54, discloses a DNS redirection service that redirects a client's DNS request from a DNS specified by the client to some other DNS. McCanne's providing content over a content distribution network and Frerria's DNS redirection service, however, do not teach or suggest the first element of claim 1 because neither McCanne nor Frerria, alone or in combination, discloses mapping a domain name of a network host to a DNS network address for a preferred DNS server as specified by a user.

In the present application, the preferred DNS server is specified by a user as the preferred DNS server for resolving a domain name for a particular network host. That is, a user prefers a *particular* DNS server for resolving a *particular* host's network address from the host's domain name. That same user may prefer *other* DNS servers for resolving domain names for *other* network hosts. In contrast to the claims in the present application, McCanne has nothing to do with a user specifying various preferred DNS servers, each of which is the DNS server preferred by the user for resolving one or more domain names. McCanne merely discloses resolving a *single* domain name to one of a set of possible network addresses—McCanne does not disclose that a domain name of a network host is mapped to a network address for a preferred DNS server specified by the user, as claimed here. Likewise, Frerria also does not disclose discloses mapping a domain name of a network host to a network address for a preferred DNS server as specified by a user. In fact, Frerria's DNS redirection service merely discloses redirecting a client's DNS request from one DNS to another—not mapping a network host's domain name to a network address for a preferred DNS server.

In addition to McCanne and Frerria's failure to disclose mapping a domain name of a network host to a network address for a preferred DNS server, McCanne and Frerria also do not disclose the first element of claim 1 in the present application because neither the cited portions of McCanne nor the cited portions of Frerria teach receiving a network address for the preferred DNS server from a user. That is, McCanne and Frerria do not disclose that a user specifies the preferred DNS server used to resolve the network address for a particular host from that host's domain name as claimed in the present

application. Because the proposed combination of McCanne and Frerria neither teaches nor suggests each and every element and limitation of claim 1 in the present application, the combination of McCanne and Frerria cannot be used to establish a *prima facie* case of obviousness, and the rejection of claim 1 should be withdrawn.

**The Office Action Does Not Examine
Applicants' Claims Pursuant To *Graham***

In addition to the fact that the Office Action has not established a *prima facie* of obviousness there is another reason that the rejection of claims 1-16 should be withdrawn: The Office Action does not examine Applicants' claims in light of the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). The question of whether Applicants' claims are obvious or not is examined in light of: (1) the scope and content of the prior art; (2) the differences between the claimed invention and the prior art; (3) the level of ordinary skill in the art; and (4) any relevant secondary considerations, including commercial success, long felt but unsolved needs, and failure of others. *KSR Int'l Co. v. Teleflex Inc.*, No. 04-1350, slip op. at 2 (U.S. April 30, 2007); *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). "To facilitate review, this analysis should be made explicit." *KSR*, slip op. at 14 (citing *In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006)). That is, the Office Action must make explicit an analysis of the factual inquiries set forth in *Graham*. In present case, however, the Office Action does not even mention the factual inquiries set forth in *Graham*. As such, the rejections of claims 1-16 under 35 U.S.C. § 103 are improper and should be withdrawn.

Relations Among Claims

Independent claim 1 claims method aspects of user defined preferred DNS routing according to embodiments of the present invention. Independent claims 7 and 13 respectively claim system and computer program product aspects of user defined preferred DNS routing according to embodiments of the present invention. Claim 1 is allowable for the reasons set forth above. Claims 7 and 13 are allowable because claim 1

is allowable. The rejections of claims 7 and 13 therefore should be withdrawn, and claims 7 and 13 should be allowed.

Claims 2-6, 8-12, and 14-16 depend respectively from independent claims 1, 7, and 13. Each dependent claim includes all of the limitations of the independent claim from which it depends. Because the combination of McCanne and Frerria does not disclose or suggest each and every element of the independent claims, so also the combination of McCanne and Frerria cannot possibly disclose or suggest each and every element of any dependent claim. The rejections of Claims 2-6, 8-12, and 14-16 therefore should be withdrawn, and these claims also should be allowed.

Conclusion

Claims 1-16 stand rejected under 35 U.S.C. § 103 as obvious over McCanne in view of Frerria. The combination of McCanne and Frerria does not teach or suggest each and every element of Applicants' claims. Claims 1-16 are therefore patentable and should be allowed. Applicants respectfully request reconsideration of claims 1-16.

The Commissioner is hereby authorized to charge or credit Deposit Account No. 09-0447 for any fees required or overpaid.

Respectfully submitted,

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By:



Thomas D. Fortenberry
Reg. No. 56,537
Biggers & Ohanian, LLP
P.O. Box 1469
Austin, Texas 78767-1469
Tel. (512) 472-9881
Fax (512) 472-9887
ATTORNEY FOR APPLICANTS